

CLAIMS

What is claimed is:

1. Apparatus for delivering pressurized gas to the airway of a patient, said apparatus comprising:

gas flow generator means for providing a flow of said gas;

conduit means for delivery of said gas flow to the airway of said patient;

pressure controller means cooperable with said gas flow generator means to provide for flow of said gas within said conduit means and within the airway of said patient at selectively variable pressures; and

at least one control circuit cooperable with said pressure controller means, said at least one control circuit being selected from the group comprising:

(1) reset circuit means for permitting said patient to substantially instantaneously reset said pressure controller means to provide said flow of gas at a predetermined reduced pressure after which said pressure controller means resumes provision of said flow of gas in a manner substantially similar to that provided prior to said reset,

(2) safety circuit means for preventing said pressure controller means from providing said flow of gas at a pressure above a predetermined maximum pressure,

(3) therapy delay circuit means for permitting delayed operation of said apparatus, and

(4) minimum system leakage assurance circuit means for assuring that said apparatus discharges a minimum system leakage flow during usage by said patient.

2. The apparatus of claim 1 wherein said apparatus is a mono-level positive airway pressure apparatus.

3. The apparatus of claim 1 wherein said apparatus is a bi-level positive airway pressure apparatus.

4. The apparatus of claim 1 wherein said apparatus is a variable positive airway pressure apparatus.

5. The apparatus of claim 1 further comprising feedback circuit means for controlling said gas flow generator means responsive to detection of a condition associated with said patient.

6. The apparatus of claim 1 wherein said apparatus further comprises means for actuating said reset circuit to effect said reset.

7. The apparatus of claim 1 wherein said safety circuit means comprise means for establishing said predetermined maximum pressure above which said apparatus will not dispense said gas.

8. The apparatus of claim 7 wherein said safety circuit means is further operable to prevent said pressure controller means from providing said flow of gas at a pressure below a predetermined minimum pressure, said safety circuit further comprising means for establishing said predetermined minimum pressure below which said apparatus will not dispense said gas.

9. The apparatus of claim 1 further comprising system data storage and retrieval means for compiling data associated with physiological parameters of said patient.

10. The apparatus of claim 9 wherein said
5 therapy delay circuit means comprise means for selectively suppressing operation of said gas flow generator means for a predetermined period of time.

11. The apparatus of claim 10 wherein said
10 means for selectively suppressing operation of said gas flow generator means comprise a first multiple position switch, whereby at such time that said first multiple position switch is switched into a first closed position thereof an activation signal is transmitted to said flow generator means causing said flow generator means to alter
15 the output of said flow of gas.

12. The apparatus of claim 11 wherein said means for selectively suppressing operation of said gas flow generator means further comprise an adjustable timer in communication with said first multiple position switch
20 for establishing said predetermined period of time.

13. The apparatus of claim 12 wherein said means for selectively suppressing operation of said gas flow generator means further comprise a second multiple position switch in communication with said timer, whereby
25 at such time that said first multiple position switch is switched into a second closed position thereof said second multiple position switch remains in an open position until expiration of said predetermined period of time whereupon said timer closes said second multiple position switch and
30 an activation signal is transmitted to said flow generator means causing said flow generator means to alter the output of said flow of gas.

14. The apparatus of claim 1 wherein said minimum system leakage assurance circuit means comprise a multiple position switch, an adjustable leakage test pressure control, and means for switching said multiple
5 position switch into communication with said leakage test pressure control, whereby at such time that said multiple position switch is switched into communication with said leakage test pressure control a signal is transmitted by said leakage test pressure control to said pressure
10 controller means causing said pressure controller means to provide said flow of gas at an elevated pressure within a gas flow circuit comprising said gas flow generator means and said conduit means sufficient to enable discovery of leaks within said gas flow circuit.

15 15. The apparatus of claim 14 wherein said means for switching comprise an adjustable timer for establishing a predetermined time for which said multiple position switch is to be switched into communication within said leakage test pressure control.

20 16. The apparatus of claim 14 wherein said means for switching comprise a low leak detector for automatically switching said multiple position switch out of communication with said leakage test pressure control when said low leak detector detects a system leakage flow
25 less than a predetermined minimum leakage flow.

17. The apparatus of claim 14 wherein said means for switching comprise a manual override means for switching said multiple position switch out of communication with said leakage test pressure control
30 responsive to patient initiated commands.

18. The apparatus of claim 14 further comprising an adjustable pre-therapy pressure control, said multiple position switch being operable to be

switched into communication with said pre-therapy pressure control, whereby at such time that said multiple position switch is switched into communication with said pre-therapy pressure control a signal is transmitted by said pre-therapy pressure control to said pressure controller means to provide said flow of gas at a predetermined pre-therapy pressure established by said pre-therapy pressure control.